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Numagami

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[54] **APPARATUS AND METHOD FOR VERIFYING TRANSFORMATION COEFFICIENTS TO IDENTIFY IMAGE LOCATION**

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[52] **U.S. Cl.** **382/1**; 382/44; 382/48; 358/103

[58] **Field of Search** 382/48, 45, 44, 1, 34, 382/30, 6; 358/103, 109; 342/64

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[57] **ABSTRACT**

An image location identification apparatus extracts a first set of control point data for calculating transformation coefficient and a second set of control point data for verifying the transformation coefficient, from image data. According to global location data entered with the image data, a map corresponding to the image data is retrieved from the map database. A first part of the control point data for calculating transformation coefficient is selected from predetermined control points of the map, and all permutation of the first part of the control point data is formed. Then, the transformation coefficients are calculated according to the first set of control point data of the image data and each permutation of the first part of the control point data of the map. The transformation coefficients are verified by using the second set of control point data of the image data and the second part of the control point data of the map. Therefore according to the verification result, the image data matched with the map is displayed automatically and exactly.

23 Claims, 4 Drawing Sheets